The Behavior Analyst 1996, 19, 109–110 No. 1 (Spring)

# Mediationism Has No Place in Psychology: Reply to Salthouse

Michael J. Watkins
Rice University

Salthouse's (1996) commentary is grounded in the premise that the overriding theme of my article (Watkins, 1990) is the proliferation of memory theories. This may be slightly misleading. I tried to capture the main theme in the title, "Mediationism and the Obfuscation of Memory." The proliferation of memory theories has been nourished by mediationism and is a facet of the obfuscation of memory, but to focus on the proliferation of memory theories is to miss my basic argument, namely that mediationism obfuscates the true nature of memory and has no place in psychology.

To argue thus is not to deny the validity of mediationism. Mediationism refers to the notion that the temporal gap between an experience and its subsequent recall or behavioral consequence is bridged by a memory trace, or engram, corresponding to the experience, and I assume this to be true. Moreover, the quest to uncover the mechanics of mediationism is not only meaningful, but must surely rank among the most exciting scientific endeavors of our time. Salthouse (1996) is right to argue that the quest will require the cross-fertilization of diverse research disciplines, and it will doubtless advance each individual discipline. Each, that is, except psychology.

I regard memory as, in its essence, a mental state, namely the having in mind of something that is, and is appreciated as being, of the past. Because science is a public and hence interpersonal enterprise, the scientific study of memory tends to be concerned less with the precise nature of this mental state than with subjects' performance on recall or other tests or with other behavioral consequences of past experiences. For present purposes, this distinction may be ignored. A person's mind and behavior both fall within the purview of psychology, and each has a reality that, when properly established, is beyond any conceivable challenge from consideration of the person's neural or other internal state. Memory is memory and cannot be gainsaid by the materialist. No matter how sophisticated the imaging or other techniques that may be brought to bear, explorations of the putative physiological substrate of mind or behavior can never offer psychology anything more solid than hypotheses. On the other hand, the engram is defined with reference to mental state or behavior and so to this extent must have its basis in psychology, even if only the lay psychology of, say, a neuroanatomist or neurologist. For all practical purposes, then, the relation between psychology and the other cognitive sciences is one way. The primary effect of incorporating mediationism into theories of memory is thus one of obfuscation.

One facet of this obfuscation can be seen in what passes for explanation in contemporary cognitive psychology. A memory phenomenon is said to be explained upon, and only upon, specification of a mechanism that could, at least in principle, simulate the phenomenon—a view to which Salthouse (1996) evidently subscribes. The vast majority of memory phenomena reported in journals of experimental psychology are "explained" by mechanisms proffered entirely without regard to physiological evidence. As argued

Address correspondence to Michael J. Watkins, Psychology Department, Rice University, Houston, Texas 77251-1892.

elsewhere (Watkins, 1991), this enterprise is more engineering than science. As theory it is trivial, as explanation it is obscure. If derived with a modicum of care, simulations of memory phenomena are neither right nor wrong, and any number can be devised for any given finding. For "theorizing" of this sort, I heartily endorse Salthouse's proposed constraints, for presumably the constraint of being "consistent with existing knowledge in the areas of neurophysiology and functional neuroanatomy" (p. 106) would of itself prove fatal to them all.

Certainly, Salthouse's (1996) constraints are to be preferred over his suggestion that the concept of memory trace is justifiable if the computational modelers cannot get along without it. This suggestion serves to fuel the confusion between computational modeling on the one hand and theorizing, the search for the engram, and psychology on the other. Whatever computational modelers may or may not be able to do should have no bearing on the reality of the memory trace for either those who seek to specify the substrate of memory or those who study memory per se: For the former it is a sine qua non, for the latter it is irrelevant.

The cognitive revolution that swept experimental psychology some three decades ago succeeded in reopening important areas of inquiry, but it also revived metatheoretical insecurities. In particular, the links it forged with other disciplines tempted reductionism, and in large measure we have succumbed to this temptation and reduced ourselves to either pseudoengineers or handmaidens of neuroscientists. Certainly we need theories and explanations, but both need to be psychological in character. Psychologists, of all people, should not be afraid of psychology.

## REFERENCES

Salthouse, T. A. (1996). Commentary on Watkins (1990): There are other solutions to the problem of proliferating memory theories. *The Behavior Analyst, 19,* 105–108.

Watkins, M. J. (1990). Mediationism and the obfuscation of memory. *American Psychologist, 45,* 328–335.

Watkins, M. J. (1991). An experimental psychologist's view of cognitive science. In R. G. Lister & H. J. Weingartner (Eds.), *Perspectives in cognitive neuroscience* (pp. 132–144). New York: Oxford University Press.